

СПИСЪК

НА ЗАБЕЛЯЗАНИТЕ НЕЗАВИСИМИ ЦИТИРАНИЯ
на доц. д-р Ирина Бинева за участие в конкурса
съгласно изискванията на Чл. 29, ал. (1), т. 5 от ЗРАСРБ

Група от показатели Д (включва показател 11):

Показател 11 – Цитирания в научни издания, монографии, колективни томове и патенти, реферирани и индексирани в световноизвестни бази данни с научна информация (Web of Science и Scopus) За участие в конкурса 171 (Необходими - 200 т.; Събрани –342т.)

D. Nesheva, C. Raptis, A. Perakis, I. Bineva, Z. Aneva, Z. Levi, S. Alexandrova, H. Hofmeister, “Raman scattering and photoluminescence from Si nanoparticles in annealed SiO_x thin films”, *J. Appl. Phys.*, **92 (2002) 4678-83.**

1. Songmuang R., Rastelli A., Mendach S., Schmidt O.G., “SiO_x/Si radial superlattices and microtube optical ring resonators”, *Applied Physics Letters*, **90** (9) (2007) art. no. 091905. ISSN: 00036951; DOI:10.1063/1.2472546
2. Song D., Cho E.-C., Conibeer G., Cho Y.-H., Huang Y., Huang S., Flynn C., Green M.A., “Fabrication and characterization of Si nanocrystals in SiC matrix produced by magnetron cosputtering”, *Journal of Vacuum Science and Technology B: Microelectronics and Nanometer Structures*, **25** (4) (2007) 1327-1335. ISSN:10711023; DOI:10.1116/1.2756556
3. Daldosso, N., Das, G., Larcheri, S., Mariotto, G., Dalba, G., Pavesi, L., Irrera, A., Priolo, F., Iacona, F., Rocca, F., “Silicon nanocrystal formation in annealed silicon-rich silicon oxide films prepared by plasma enhanced chemical vapor deposition”, *Journal of Applied Physics* **101** (11) (2007) art. no. 113510 – 113516. ISSN:00218979; DOI:10.1063/1.2740335
4. Wang J., Wang X.F., Li Q., Hryciw A., Meldrum A., “The Microstructure of SiO Thin Films: from Nanoclusters to Nanocrystals”, *Philosophical Magazine*, **87** (1) (2007) 11 – 27. ISSN:14786443; DOI:10.1080/14786430600863047
5. Rao S., Mantey K., Therrien J., Smith A., Nayfeh M., “Molecular behavior in the vibronic and excitonic properties of hydrogenated silicon nanoparticles”, *Physical Review B - Condensed Matter and Materials Physics*, **76** (15) (2007) art. no. 155316. ISSN:1550235X; DOI:10.1103/PhysRevB.76.155316
6. Huang R., Ma L.B., Song R., Du Y., Shi H.J., Ye J.P., Lin Y., Cao Z.X., “Growth of nearly one nanometer large silicon particles in silicon carbide and their quantum-confined photoluminescence features”, *Nanotechnology*, **18** (44) (2007) 4456055-4456059. ISSN:13616528; doi:10.1088/0957-4484/18/44/445605
7. Indutnyy I.Z., Maïdanchuk I.Yu., Min'ko V.I., Shepelyavyi P.E., Dan'Ko V.A., “Effect of chemical treatment on photoluminescence spectra of SiO_x layers with built-in Si nanocrystals”, *Semiconductors*, **41** (10) (2007) 1248-1254. ISSN:10637826; DOI:10.1134/S1063782607100223
8. Koyanagi E., Uchino T., “Evolution process of luminescent Si nanostructures in annealed SiO_x thin films probed by photoconductivity measurements”, *Applied Physics Letters* **91** (4) (2007) art. no. 041910, ISSN:00036951, DOI:10.1063/1.2764441
9. Yoon J.-H., Elliman R.G., “Synthesis of nickel disilicide quantum dots in silicon dioxide films”, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **313-314** (2008) 365-368. ISSN:09277757; DOI:10.1016/j.colsurfa.2007.05.043
10. Okada T., Higashi S., Kaku H., Yorimoto T., Murakami H., Miyazaki S., “Growth of Si crystalline in SiO_x films induced by millisecond rapid thermal annealing using thermal plasma jet”, *Solid-State Electronics*, **52** (3) (2008) 377-380. ISSN:00381101; DOI:10.1016/j.sse.2007.10.007
11. Hernández S., Martínez A., Pellegrino P., Lebour Y., Garrido B., Jordana E., Fedeli J.M., “Silicon nanocluster crystallization in SiO_x films studied by Raman scattering”, *Journal of Applied Physics*, **104** (4) (2008) art. no. 044304. ISSN:00218979; DOI:10.1063/1.2968244
12. Huang R., Ma L., Du Y., Gao L., Li C., Yu C., Ye J., Cao Z., “Effect of well confinement on photoluminescence features from silicon nanoparticles embedded in an SiC/SiN_x multilayered

- structure”, *Nanotechnology*, **19** (25) (2008) art. no. 255402. ISSN:13616528; DOI:10.1088/0957-4484/19/25/255402
13. Szekeres A., Nikolova T., Paneva A., Lisovskyy I., Shepeliavyi P.E., Rudko G.Yu., “Effect of Si nanoparticles embedded in SiO_x on optical properties of the films studied by spectroscopic ellipsometry and photoluminescence spectroscopy”, *Optical Materials*, **30** (7) (2008) 1115-1120. ISSN:09253467; DOI:10.1016/j.optmat.2007.05.033
 14. Nozaki C.Y., Chen S., Kimura H. Ono, and Uchida, K., “Photoluminescence of Si nanocrystals formed by the photosynthesis”, *Thin Solid Films*, **517** (1) (2008) 50-54. ISSN:00406090; DOI:10.1016/j.tsf.2008.08.083
 15. Rudko G.Yu., Maidanchuk I.Yu., Indutnyy I.Z., Misiuk A., Gule E.G., Shepeliavyi P.E., “Phase separation in SiO_x films annealed under enhanced hydrostatic pressure”, *Physica Status Solidi (B) Basic Research*, **245** (12) (2008) 2756-2760. ISSN:15213951; DOI:10.1002/pssb.200844049
 16. Pan H., Ni Z., Poh C., Feng Y.P., Lin J., Shen Z., “A simple route to growth of silicon nanowires”, *Journal of Nanoscience and Nanotechnology*, **8** (11) (2008) 5787-5790. ISSN:15334880; DOI:10.1166/jnn.2008.217
 17. Huang F., Song Q., Li M., Xie B., Wang H., Jiang Y., Song Y., “Influences of annealing temperature on the optical properties of SiO_x thin film prepared by reactive magnetron sputtering”, *Applied Surface Science*, **255** (5 PART 1) (2008) 2006-2011.
 18. Huang R., Ma L., Du Y., Gao L., Li C., Yu C., Ye J., Cao Z., “Effect of well confinement on photoluminescence features from silicon nanoparticles embedded in an SiC/SiN_x multilayered structure”, *Nanotechnology*, **19** (25) (2008) art. no. 255402.
 19. Morales-Sánchez A., Barreto J., Domínguez-Horna C., Aceves-Mijares M., Luna-López J.A., “Optical characterization of silicon rich oxide films”, *Sensors and Actuators, A: Physical*, **142**, (1) (2008) 12-18. DOI: 10.1016/j.sna.2007.03.008, ISSN: 09244247
 20. Klangsin J., Marty O., Munguía J., Lysenko V., Vorobey A., Pitaval M., Céreyon A., Pillonnet A., Champagnon B., “Structural and luminescent properties of silicon nanoparticles incorporated into zirconia matrix”, *Physics Letters, Section A: General, Atomic and Solid State Physics*, **372** (9) (2008) 1508-1511. DOI: 10.1016/j.physleta.2007.10.008, ISSN: 03759601
 21. Ku S.-L., Lee C.-C., “Optical constant of SiO_x films in mid-IR range prepared by ion-assisted deposition”, *Proceedings of SPIE - The International Society for Optical Engineering* 7067, 2008, art. no. 70670G. DOI: 10.1117/12.792002, ISSN: 0277786X
 22. Tjahjana L., Tobing L.Y.M., Wang B., Tanoto H., Chua S.J., “Disk-to-pyramidal GaAs islands shape evolution on nanodisks-patterned substrate”, *IEEE Photonics Global at Singapore, IPGC*, 2008 art. no. 4781328. DOI: 10.1109/IPGC.2008.4781328, ISBN: 9781424429059
 23. Hyun D. Park and S.M. Prokes, “Study of Nanowire Growth Mechanisms: VLS and Si Assisted”, *One-Dimensional Nanostructures Lecture Notes in Nanoscale Science and Technology*, **3** (2008) 1-15. DOI: 10.1007/978-0-387-74132-1_1
 24. Kiebach, R., Luna-López, J.-A., Dias, G.O., Aceves-Mijares, M., Swart, J.W. Characterization of silicon rich oxides with tunable optical band gap on sapphire substrates by photoluminescence, UV/Vis and raman spectroscopy, (2008) *Journal of the Mexican Chemical Society*, **52** (3), pp. 212-218. ISSN: 1870249X
 25. Szekeres A., Vlaikova E., Lohner T., Petrik P., Cziraki A., Zlobin S., Shepeliavyi P., “Effect of high-temperature annealing on evaporated silicon oxide films: A spectroscopic ellipsometry study”, *ECS Transactions*, **25** (3) (2009) 379-384. ISSN:19385862; ISBN:978-160768090-1, 978-156677740-7
 26. Okada T., Higashi S., Kaku H., Furukawa H., Miyazaki S., “Formation of Si nanocrystals in SiO_x films induced by thermal plasma jet annealing and its application to floating gate memory”, *ECS Transactions*, **16** (9) (2009) 177-182. ISSN:19385862; ISBN:978-156677655-4
 27. Gautam, D., Koyanagi, E., Uchino, T., “Photoluminescence properties of SiO_x thin films prepared by reactive electron beam evaporation from SiO and silica nanoparticles”, *Journal of Applied Physics*, **105** (7) (2009) art. no. 073517. ISSN:00218979; DOI:10.1063/1.3104772
 28. Zhang W., Zhang S., Liu Y., Chen T., “Evolution of Si suboxides into Si nanocrystals during rapid thermal annealing as revealed by XPS and Raman studies”, *Journal of Crystal Growth*, **311** (5) (2009) 1296-1301. ISSN:00220248; DOI:10.1016/j.jcrysgr.2008.12.038

29. Lee C.-T., Chen Y.-F., Lin C.-H., “Phase-separated Si nanoclusters from Si oxide matrix grown by laser-assisted chemical vapor deposition”, *Nanotechnology*, **20** (2) (2009) art. no. 025702. ISSN:13616528; DOI:10.1088/0957-4484/20/2/025702
30. Lohner T., Szekeres A., Nikolova T., Vlaikova E., Petrik P., Huhn G., Havancsak K., Lisovskyy I., Zlobin S., Indutnyi I., Shepeliavyi P.E., “Optical models for ellipsometric characterization of high temperature annealed nanostructured SiO₂ films”, *Journal of Optoelectronics and Advanced Materials*, **11** (9) (2009) 1288-1292. ISSN:14544164
31. Zhao, W., Deng, J., Yang, B., Yu, Z., Aceves, M., “Nanocrystalline silicon quantum dots thin films prepared by magnetron reaction sputtering”, *Proceedings of SPIE - The International Society for Optical Engineering*, **7381** (2009) art. no. 738113. ISSN:0277786X; ISBN:978-081947662-3; DOI:10.1117/12.834822
32. Szekeres, A., Vlaikova, E., Lohner, T., Petrik, P., Huhn, G., Havancsak, K., Lisovskyy, I., Zlobin, S., Indutny I.Z., Shepeliavyi, P.E., “Ellipsometric characterization of SiO_x films with embedded Si nanoparticles”, *Vacuum*, **84** (1) (2009) 115-118. ISSN:0042207X; DOI:10.1016/j.vacuum.2009.05.016
33. Li, W.-L., Jia, R., Liu, M., Chen, C., Xie, C.-Q., Zhu, C.-X., Li, H.-F., Zhang P.-W., Ye, T.-C., “Fabrication and characterization of Si nanocrystals synthesized by electron beam evaporation of Si and SiO₂ mixture”, *Chinese Physics Letters*, **26** (4) (2009) art. no. 046801. ISSN:0256307X; DOI:10.1088/0256-307X/26/4/046801
34. Nishimura, M., Nanai, Y., Bohda, T., Okuno, T., “Yellow photoluminescence of europium thiosilicate on silicon substrate”, *Japanese Journal of Applied Physics*, **48** (7 PART 1) (2009) art. no. 072301. ISSN:13474065; DOI:10.1143/JJAP.48.072301
35. Lisovskyy I.P., Voitovich M.V., Sarikov A.V., Litovchenko V.G., Romanyuk A.B., Melnyk V.P., Khatsevich I.M., Shepeliavyi P.E., “Transformation of the structure of silicon oxide during the formation of Si nano-inclusions under thermal annealings”, *Ukrainian Journal of Physics*, **54** (4) (2009) 383-390., ISSN 20710186
36. Fitting, H.-J., Kourkoutis, L.F., Salh, R., Kolesnikova, E.V., Zamoryanskaya, M.V., Von Czarnowski, A., Schmidt, B., “Silicon cluster aggregation in silica layers”, *Diffusion and Defect Data Pt.B: Solid State Phenomena*, **156-158** (2009) 529-533. ISSN: 10120394; ISBN:3908451744, 978-390845174-7; DOI:10.4028/www.scientific.net/SSP.156-158.529
37. Dan'ko, V.A., Zlobin, S.O., Indutnyi, I.Z., Lisovskyy, I.P., Litovchenko, V.G., Michailovska, K.V., Shepeliavyi, P.E., “Influence of the HF vapor treatment on the structure and luminescence properties of porous Si/SiO_x nanocomposites”, *Ukrainian Journal of Physics*, **55** (9) (2010) 1038-1044, ISSN 20710186
38. Zhang, W.L., Zhang, S., Yang, M., Chen, T.P., “Microstructure of magnetron sputtered amorphous SiO_x films: Formation of amorphous Si core-shell nanoclusters”, *Journal of Physical Chemistry C*, **114** (6) (2010) 2414-2420. ISSN:19327455; DOI:10.1021/jp906284f
39. Díaz-Becerril, T., García-Salgado, G., Coyopol, A., Rosendo, E., Juárez, H., “PL properties of SiO_x obtained by HFCVD technique”, *Materials Science Forum*, **636-637** (2010) 444-449. ISSN:02555476; DOI:10.4028/www.scientific.net/MSF.636-637.444
40. Fitting, H.-J., Kourkoutis, L.F., Salh, R., Zamoryanskaya, M.V., Schmidt, B., “Silicon nanocluster aggregation in SiO₂:Si layers”, *Physica Status Solidi (A) Applications and Materials*, **207** (1) (2010) 117-123. ISSN:18626300; DOI:10.1002/pssa.200925201
41. Okada, T., Higashi, S., Kaku, H., Makihara, K., Furukawa, H., Hiroshige, Y., Miyazaki, S., “Effect of chemical composition of SiO_x films on rapid formation of Si nanocrystals induced by thermal plasma jet irradiation”, *Physica Status Solidi (C) Current Topics in Solid State Physics*, **7** (3-4) (2010) 732-734. ISSN:16101642; DOI:10.1002/pssc.200982804
42. Zhang, W.L., Zhang, S., Yang, M., Liu, Z., Cen, Z., Chen, T., Liu, D., “Electroluminescence of as-sputtered silicon-rich SiO_x films”, *Vacuum*, **84** (8) (2010) 1043-1048. ISSN:0042207X; DOI:10.1016/j.vacuum.2009.10.042
43. Indutnyi, I.Z., Michailovska, E.V., Shepeliavyi, P.E., Dan'ko, V.A., “Visible photoluminescence of selectively etched porous nc-Si-SiO_x structures”, *Semiconductors*, **44** (2) (2010) 206-210. ISSN:10637826; DOI:10.1134/S1063782610020120
44. Lee, C.-C., Ku, S.-L., “Optical and structural properties of SiO_x films from ion-assisted deposition”, *Thin Solid Films*, **518** (17) (2010) 4804-4808. ISSN:00406090; DOI:10.1016/j.tsf.2010.01.039

45. Toda, S., Oishi, T., Yoshioka, T., Okuno, T., “Optical properties of silicon nanowires fabricated by electroless silver deposition”, *Japanese Journal of Applied Physics*, **49** (9 PART 1) (2010) art. no. 095002. ISSN:13474065; DOI:10.1143/JJAP.49.095002
46. Chang G., Ma F., Ma D. and Xu K., “Multi-band silicon quantum dots embedded in an amorphous matrix of silicon carbide”, *Nanotechnology*, **21** (46) (2010) 465605. ISSN:13616528; DOI:10.1088/0957-4484/21/46/465605

I. Bineva, R. Voicu, A. Dinescu, R. Gavrila, R. Muller, D. Esinenco, B. Bucur, M. Diaconu and L. G. Radu “SiO₂ microcantilevers designed for biosensing: experiments and simulations” *Romanian Journal of Information Science and Technology (ROMJIST)*, **10, Number **1**, 13-23 (2007).**

47. S. Urekabharathi and K.G. Padmasine, “Enhancement of Micro cantilever’s Rectangular and Triangular Beam for Improving the Sensitivity of Biosensor – a Comparative Study”, *IOP Conf. Series: Materials Science and Engineering*, **561** (2019) 012011. IOP Publishing, doi:10.1088/1757-899X/561/1/012011 1; ISSN:17578981

I. Bineva, D. Nesheva, Z. Aneva, Z. Levi, “Room temperature photoluminescence from amorphous silicon nanoparticles in SiO_x thin films” (2007) *Journal of Luminescence*, **126 (2), pp. 497-502.**

48. Wu, Z.-M., Li, S.-B., Li, W., Niao, N.-M., Jiang, Y.-D., Zhu, K.-P. “Characterization of hydrogenated amorphous silicon thin films prepared by PECVD”, *Proceedings of SPIE - The International Society for Optical Engineering*, **6722** (2007) art. no. 67222X. ISSN:0277786X; ISBN:978-081946879-6; DOI:10.1117/12.783345
49. Ali, A.M., “Enhancing optical properties of nanocrystalline silicon films with air exposure”, *Materials Science in Semiconductor Processing*, **11** (4) (2008) 137 – 145. ISSN:13698001; DOI:10.1016/j.mssp.2009.06.002
50. Ren, F.-F., Yu, M.B., Ye, J.D., Chen, Q., Tan, S.T., Lo, G.Q., Kwong, D.L., “Strong vertical light output from thin silicon rich oxide/ SiO₂ multilayers via in-plane modulation of photonic crystal patterns”, *Applied Physics Letters*, **93** (9) (2008) art. no. 091901 ISSN:00036951; DOI: 10.1063/1.2976330
51. Saitow, K.-I., Yamamura, T., “Effective cooling generates efficient emission: blue, green, and red light-emitting si nanocrystals”, *Journal of Physical Chemistry C*, **113** (19) (2009) 8465-8470. ISSN:19327455; DOI:10.1021/jp900067s
52. Nishimura, M., Nanai, Y., Bohda, T., Okuno, T., “Yellow photoluminescence of europium thiosilicate on silicon substrate”, *Japanese Journal of Applied Physics*, **48** (7 PART 1) (2009) art. no. 072301. ISSN:13474065; DOI:10.1143/JJAP.48.072301
53. Bacioğlu, A., Kodolbaş, A. O. and Öktü, Ö., “Observation and enhancement of visible photoluminescence of PECVD a-SiO_x:H (x < 2) thin films by microcavity effect”, *Physica Status Solidi (C)*, **7** (2010) 1405–1408. doi: 10.1002/pssc.200983355
54. Bacioğlu, A., Kodolbaş, A. Osman, Öktü, Ö., “Temperature dependent photoluminescence of PECVD a-SiO_x:H (x<2)”, *Journal of Luminescence*, **130** (10) (2010) 1730 – 1737. ISSN:0022231; DOI:10.1016/j.jlumin.2010.04.001
55. Toda, S., Oishi, T., Yoshioka, T., Okuno, T., “Optical properties of silicon nanowires fabricated by electroless silver deposition”, *Japanese Journal of Applied Physics*, **49** (9 PART 1) (2010) art. no. 095002. ISSN:13474065; DOI:10.1143/JJAP.49.095002
56. Vu, V.T., Nguyen, D.C., Pham, H.D., Chu, A.T. & Thanh Huy, P., “Fabrication of a silicon nanostructure-based light emitting device”, *IOP Advances in Natural Sciences: Nanoscience and Nanotechnology*, **1** (2) (2010) 025006. ISSN:20436262; DOI:10.1088/2043-6254/1/2/025006
57. Araya, M., Díaz-Droguett, D.E., Ribeiro, M., F. Albertin, K., Avila, J., Fuenzalida, V.M., Espinoza, R., Criado, D., “Photoluminescence in silicon/silicon oxide films produced by the Pulsed Electron Beam Ablation technique”, *Journal of Non-Crystalline Solids*, **358** (5) (2012) 880 – 884. ISSN:00223093; DOI:10.1016/j.jnoncrysol.2011.12.072
58. Hoang, V.V., Ganguli, D., “Amorphous nanoparticles - Experiments and computer simulations”, *Physics Reports*, **518** (3) (2012) 81 – 140. ISSN:03701573; DOI:10.1016/j.physrep.2012.07.004
59. Saitow, K., “Nanoparticle Generation by Laser Ablation in Liquid and Supercritical Fluid” in *Laser Ablation in Liquids: Principles and Applications in the Preparation of Nanomaterials*, Edited by:Yang, G, Pan Stanford Publishing 2012, Print ISBN: 978-981-4310-95-6, eBook ISBN: 978-981-4241-52-6; Pages: 573-626; Published 2012. DOI:10.4032/9789814241526

60. Diamare, D., Wojdak, M., Lettieri, S. & Kenyon, A.J., "Time-correlated single-photon counting study of multiple photoluminescence lifetime components of silicon nanoclusters", *Journal of Luminescence*, **136** (2013) 57-62. ISSN:00222313; DOI:10.1016/j.jlumin.2012.10.038
61. Vainshtein, J.S., Yeltsina, O.S., Terukov, E.I., Sreseli, O.M., "Photocurrent and photovoltage spectroscopy of amorphous silicon nanoclusters", *Physica E: Low-dimensional Systems and Nanostructures*, **49** (2013) 72-75. ISSN 1386-9477, 10.1016/j.physe.2013.01.023. ISSN:13869477; DOI:10.1016/j.physe.2013.01.023
62. Chaturvedi, A., Joshi, M.P., Rani, E., Ingale, A., Srivastava, A.K., Kukreja, L.M., "On red-shift of UV photoluminescence with decreasing size of silicon nanoparticles embedded in SiO₂ matrix grown by pulsed laser deposition", *Journal of Luminescence*, **154** (2014) 178-184. ISSN:00222313; DOI:10.1016/j.jlumin.2014.04.032

Pejova B., Abay B., Bineva I. Temperature dependence of the band-gap energy and sub-band-gap absorption tails in strongly quantized ZnSe nanocrystals deposited as thin films (2010) *Journal of Physical Chemistry C*, **114 (36), pp. 15280-15291.**

63. Zhu, Z., Zhang, A., Ouyang, G., Yang, G., "Band gap tunability in semiconductor nanocrystals by strain: Size and temperature effect", *Journal of Physical Chemistry C*, **115** (14) (2011) 6462-6466. ISSN:19327455; DOI:10.1021/jp2009644
64. Chen Yuming; Li Jianwei; Yang Xuexian; Zhou Zhaofeng and Sun Chang Q., "Band Gap Modulation of the IV, III-V, and II-VI Semiconductors by Controlling the Solid Size and Dimension and the Temperature of Operation", *Journal of Physical Chemistry C*, **115** (47) (2011) 23338-23343. ISSN:19327455; DOI: 10.1021/jp209933v
65. Gao, J., Johnson, J.C., "Charge trapping in bright and dark states of coupled PbS quantum dot films", *ACS Nano*, **6** (4) (2012) 3292-3303. ISSN:1936086X; DOI:10.1021/nm300707d
66. Erslev, P.T., Chen, H.-Y., Gao, J., Beard, M.C., Frank, A.J., Van De Lagemaat, J., Johnson, J.C., Luther, J.M. "Sharp exponential band tails in highly disordered lead sulfide quantum dot arrays" *Physical Review B - Condensed Matter and Materials Physics*, **86** (15) (2012) art. no. 155313. ISSN:1550235X; DOI:10.1103/PhysRevB.86.155313
67. Özkan, M, Ekem, N, Balbag, M Z, Pat, S., "ZnSe nanocrystalline thin films deposition on Si substrate by thermionic vacuum arc", *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications*, **226** (2) (2012) 103-108. ISSN:20413076; DOI:10.1177/1464420711433095
68. Sarswat, Prashant K., Free, Michael L., "A study of energy band gap versus temperature for Cu₂ZnSnS₄ thin films", *Physica B: Condensed Matter*, **407** (1) (2012) 108-111. doi:10.1016/j.physb.2011.09.134., ISSN:09214526
69. Shirazi, M., Hosseinejad, M.T., Zendehtnam, A., Ghoranneviss, M., Reza Etaati, G., "Synthesis and characterization of nanostructured ZnO multilayer grown by DC magnetron sputtering", *Journal of Alloys and Compounds*, **602** (2014) 108-116. ISSN:09258388; DOI:10.1016/j.jallcom.2014.03.029
70. Manonmani Parvathi, M., Arivazhagan, V., Rajesh, S., "Structural and optical properties of ZnSe thin films stacked with PbSe submonolayers", *Applied Physics A: Materials Science and Processing*, **116** (4) (2014) 1773-1778. ISSN:09478396; DOI:10.1007/s00339-014-8326-2
71. Lohar, G.M., Shinde, S.K., Rath, M.C., Fulari, V.J., "Structural, optical, photoluminescence, electrochemical, and photoelectrochemical properties of Fe doped ZnSe hexagonal nanorods", *Materials Science in Semiconductor Processing*, **26** (1) (2014) 548-554. ISSN:13698001; DOI:10.1016/j.mssp.2014.05.047
72. Lohar, G.M., Thombare, J.V., Shinde, S.K., Han, S.H., Fulari, V.J., "Structural, photoluminescence and photoelectrochemical properties of electrosynthesized ZnSe spheres", *Journal of Materials Science: Materials in Electronics*, **25** (4) (2014) 1597-1604. ISSN:09574522; DOI:10.1007/s10854-014-1750-4
73. Lohar, G. M., Dhaygude, H.D., Patil, R.A., Ma, Y.R., & Fulari, V.J., "Studies of properties of Fe²⁺ doped ZnSe nano-needles for photoelectrochemical cell application", *Journal of Materials Science: Materials in Electronics*, **26** (11) (2015). 8904-8914. ISSN:09574522; DOI:10.1007/s10854-015-3572-
74. Lohar, G. M., Jadhav, S. T., Dhaygude, H. D., Takale, M. V., Patil, R. A., Ma, Y. R., Rath M.C., & Fulari, V. J., "Studies of properties of Fe³⁺ doped ZnSe nanoparticles and hollow spheres for photoelectrochemical cell application", *Journal of Alloys and Compounds*, **653** (2015) 22-31. ISSN:09258388; DOI:10.1016/j.jallcom.2015.08.208

75. Lohar, G.M., Jadhav, S.T., Takale, M.V., Patil, R.A., Ma, Y.R., Rath, M.C., & Fulari, V.J., “Photoelectrochemical cell studies of Fe²⁺ doped ZnSe nanorods using the potentiostatic mode of electrodeposition, *Journal of colloid and interface science*, **458** (2015) 136-146. ISSN:00219797; DOI:10.1016/j.jcis.2015.07.046
76. Feizi, E., & Ray, A. K., “Extraction of the optical parameters of sol–gel processed 12CaO·7Al₂O₃ thin film for optoelectronic applications”, *Journal of Materials Science: Materials in Electronics*, **26** (10) (2015) 7837-7843. ISSN:09574522; DOI:10.1007/s10854-015-3433-1
77. Singh, B., Singh, J., Kaur, J., Moudgil, R. K., & Tripathi, S. K., “Investigations of the drift mobility of carriers and density of states in nanocrystalline CdS thin films”, *Physica B: Condensed Matter*, **490** (2016) 49-56. ISSN:09214526; DOI:10.1016/j.physb.2016.03.006
78. Liu, M., Voznyy, O., Sabatini, R., de Arquer, F.P.G., Munir, R., Balawi, A.H., Lan, X., Fan, F., Walters, G., Kirmani, A.R., Hoogland, S., Laquai, F., Amassian A. and Sargent E.H., “Hybrid organic-inorganic inks flatten the energy landscape in colloidal quantum dot solids”, *Nature Materials*, **16** (2) (2017) 258-263. ISSN:14761122; DOI:10.1038/nmat4800
79. Trapalis, I. Farrer, K. Kennedy, A. Kean, J. Sharman, and J. Heffernan, “Temperature dependence of the band gap of zinc nitride observed in photoluminescence measurements”, *Applied Physics Letters*, **111**(12) (2017) 122105. ISSN:00036951; DOI:10.1063/1.4997153
80. Peiji Geng, Weiguo Li, Xianhe Zhang, Xuyao Zhang, Yong Deng and Haibo Kou, “A novel theoretical model for the temperature dependence of band gap energy in semiconductors”, *J. Phys. D: Appl. Phys.*, **50** (40) (2017) 40LT02. ISSN:00223727; DOI:10.1088/1361-6463/aa85ad
81. Enam, F.M.T., Rahman, K.S., Kamaruzzaman, M.I., Sobayel, K., Chelvanathan, P., Bais, B., Akhtaruzzaman, M., Alamoud, A.R.M., Amin, N., “Design prospects of cadmium telluride/silicon (CdTe/Si) tandem solar cells from numerical simulation”, *Optik - International Journal for Light and Electron Optics*, **139** (2017) 397-406. ISSN:00304026; DOI:10.1016/j.ijleo.2017.03.106
82. Liu, F.-F., Wang, H., Zhang, Y., Zhou, Z.-Q., Effect of Temperature on Output Characteristics of CIGS Solar Cells [温度对CIGS太阳能电池输出特性的影响](2017) *Rengong Jingti Xuebao/Journal of Synthetic Crystals*, **46** (9), pp. 1762-1766. ISSN:1000985X
83. Lohar, G.M., Jadhav, S.T., Relekar, B.P., Patil, R.A., Ma, Y.-R., Fulari, V.J., “Electrochemically synthesized 1D and 3D hybrid Fe³⁺doped ZnSe dandelions for photoelectrochemical cell application”, *Optik*, **158** (2018) 53 – 63. ISSN:00304026; DOI:10.1016/j.ijleo.2017.12.017
84. El-Desoky, M.M., El-Barbary, G.A., El Refaey, D.E., El-Tantawy, F., “Optical constants and dispersion parameters of La-doped ZnS nanocrystalline films prepared by sol–gel technique” *Optik*, **168** (2018) 764-777. ISSN:00304026; DOI: 10.1016/j.ijleo.2018.04.129 ISSN: 00304026
85. Yuan, B., He, X., Chen, L., Wang, W., Cheng, T., Liang, E., “Electrical properties and dielectric relaxation behavior of zirconium vanadate” *Ceramics International*, **44** (17) (2018) 21621-21625. DOI:10.1016/j.ceramint.2018.08.244; ISSN: 02728842 ISSN:02728842
86. Mishra, V., Warshi, M.K., Kumar, R., Sagdeo, P.R., “Design and development of in-situ temperature dependent diffuse reflectance spectroscopy setup”, *Journal of Instrumentation*, **13** (11) (2018) art. no. T11003. ISSN: 17480221; DOI:10.1088/1748-0221/13/11/T11003
87. Trubaieva, O.G., Lalayants, A.I., Chaika, M.A., “Band gap change of bulk ZnS_xSe_{1-x} semiconductors by controlling the sulfur content”, *Ukrainian Journal of Physics*, **63** (1) (2018) 33-37. DOI: 10.15407/ujpe63.01.0033 ISSN: 20710186
88. Lebedev, A.I., “Negative thermal expansion in CdSe quasi-two-dimensional nanoplatelets”, *Physical Review B*, **100** (3) (2019) art. no. 035432. ISSN:24699950; DOI: 10.1103/PhysRevB.100.035432
89. Shirahata, N., Sakka, Y., “Controlled surface for enhanced luminescence quantum yields of silicon nanocrystals”, *Funtai Oyobi Fummatsu Yakin/Journal, Japan Society of Powder and Powder Metallurgy*, **66** (4) (2019) 145-157. ISSN: 05328799; DOI: 10.2497/jjspm.66.145
90. He, X., Qi, H., Xu, Q., Liu, X., Xu, L., Yuan, B., “Conductive property of Zr_{0.1}Fe_{0.9}V_{1.1}Mo_{0.9}O₇ with low thermal expansion”, *Chinese Physics B*, **28** (5) (2019) art. no. 056501. ISSN: 16741056; DOI: 10.1088/1674-1056/28/5/056501
91. Jeong, K.A., Lee, S.K., Myoung, N., “Time-resolved spectroscopy of Fe³⁺d-d transition in bulk ZnSe polycrystal”, *Optical Materials Express*, **9** (7) (2019) 2964-2970. DOI: 10.1364/OME.9.002964, ISSN: 21593930
92. Mishra, V., Warshi, M.K., Sati, A. Kumar, A., Mishra, V., Kumar, R., Sagdeo, P.R., “Investigation of temperature-dependent optical properties of TiO₂ using diffuse reflectance

- spectroscopy”, *SN Appl. Sci.*, **1** (2019) 241. ISSN:25233971; <https://doi.org/10.1007/s42452-019-0253-6>
93. Hwang, Younghun, Choi, Jeongyong, Ha, Yang, Cho, Sunglae, Park, Hyoyeol, “Electronic and optical properties of layered chalcogenide FeIn_2Se_4 ”, *Current Applied Physics*, **20** (1) (2020) 212-218. ISSN:15671739; <https://doi.org/10.1016/j.cap.2019.11.005>
 94. Sivakumar, A., Dhas, S.S.J., Dhas, S.A.M.B., „Shock wave-induced optical band gap engineering on pure and dye-doped potassium dihydrogen phosphate crystals“, *Journal of Materials Science: Materials in Electronics*, **31** (16) (2020) 13704-13713. ISSN:09574522; DOI: 10.1007/s10854-020-03928-0
 95. Lan, Y.-Z., Bao, X.-H., “First-principles study of the excitonic effect on two-photon absorption of semiconductors: Theory and application to Mo S₂ and W S₂ monolayers”, *Physical Review B*, **101** (19) (2020) art. no. 195437. ISSN:24699950; DOI: 10.1103/PhysRevB.101.195437
 96. You, H.R., Park, J.Y., Lee, D.H., Kim, Y., Choi, J., “Recent research progress in surface ligand exchange of PbS quantum dots for solar cell application”, *Applied Sciences (Switzerland)*, **10** (3) (2020) art. no. 975. ISSN:20763417; DOI: 10.3390/app10030975
 97. Gulo, Desman Perdamaian, Yeh, Han, Chang, Wen-Hao, Liu, Hsiang-Lin, “Temperature-dependent optical and vibrational properties of PtSe_2 thin films”, *Scientific Reports*, **10** (1) (2020) 19003. <https://doi.org/10.1038/s41598-020-76036-y>, ISSN:20452322
 98. Mondal, S., Ghosh, A., Dhar Dwivedi, S.M.M., Dalal, A., Mondal, A., “Detailed experimental and theoretical analysis of the high-temperature current conduction properties of Er-doped TiO_2 thin film based diodes”, *Materials Science in Semiconductor Processing*, **130** (2021) 105834. ISSN:13698001; DOI:10.1016/j.mssp.2021.105834
 99. Zhang, M., Guo, F., Lei, S., Zhong, T., Xiao, B., Liu, C., Wang, L., Chen, J., You, Q., Liu, J., Yang, R., “Positive temperature dependence of the electroluminescent performance in a colloidal quantum dot light-emitting diode”, *Dyes and Pigments*, **195** (2021) 109703. ISSN:01437208; DOI:10.1016/j.dyepig.2021.109703
 100. Ziat, Y., Belkhanchi, H., Hammi, M., Ifguis, O., "Epoxy/Silicone Blend Loaded with N-Doped CNT Composites: Study on the Optoelectronic Properties", *International Journal of Photoenergy*, **2021** (2021) Article ID 3749722. ISSN:1110662X; <https://doi.org/10.1155/2021/3749722>
 101. Patil, P.D., Wasala, M., Ghosh, S., Lei, S., Talapatra, S., “Broadband photocurrent spectroscopy and temperature dependence of band gap of few-layer indium selenide (InSe)”, *Emergent Materials*, **4** (4) (2021) 1029-1036. ISSN:25225731; DOI:10.1007/s42247-021-00248-9
 102. Vahedi, S., Eskandari, M., Barzinjy, A.A., Rostami A., Dolatyari, M., Rostami, G. "Overcoming the temperature effect on a single junction and intermediate band solar cells using an optical filter and energy selective contacts", *Optical and Quantum Electronics*, **54** (6) (2022) 374. ISSN:03068919; <https://doi.org/10.21203/rs.3.rs-673921/v1>
 103. Parkhomenko, I., Vlasukova, L., Komarov, F., Makhavikou M., Milchanin O., Mudryi, A., Wendler, E., "Radiative recombination in zinc blende ZnSe nanocrystals ion-beam synthesized in silica", *Journal of Physics D: Applied Physics*, **55** (20) (2022) 205101. ISSN:00223727; DOI:10.1088/1361-6463/ac526c

D Nesheva, Z Aneva, M J Šćepanović, I Bineva, Z Levi, Z V Popović and B Pejova Composition and structure of $\text{Zn}_x\text{Cd}_{1-x}\text{Se}$ single layers prepared by thermal evaporation of ZnSe and CdSe 16 ISCMP *J. Phys.: Conf. Ser.* **253 (2010) 012035 doi: 10.1088/1742-6596/253/1/012035.**

104. S. Selva Priya, B. Lakshmi Shree, P. Therasa Ranjani, and M. Sridharan, “Studies on ZnCdSe thin films prepared by thermal evaporation”, *Nanomaterials and Energy*, **4** (1) (2015) 73-79. <https://doi.org/10.1680/nme.15.00001>, ISSN 2045-9831 | E-ISSN 2045-984X
105. Dzhagan V.M., Azhniuk Y.M., Milekhin A.G., Zahn D.R., "Vibrational spectroscopy of compound semiconductor nanocrystals", *Journal of Physics D: Applied Physics*, **51** (50) (2018) 503001. ISSN:00223727; DOI:10.1088/1361-6463/aada5c
106. Zharikov, I.A., Rud', V. Yu., Rud', Yu.V., Davydov, V.V., Terukov, E.I., "Polarization sensitivity of ZnSe single crystals based structures", *Journal of Physics: Conference Series*, **1410** (2019) 012088. ISSN:17426588; DOI: 10.1088/1742-6596/1410/1/012088
107. Šćepanović, M., Grujić-Brojčin, M., Lazarević, N., Popović, Z.V., Temperature-Dependent Raman Study of Nanostructured and Multifunctional Materials (2019) *Physica Status Solidi (A)*

- N Starbov, S Balabanov, I Bineva, A Rachkova, E Krumov and K Starbova „Al doped ZnO thin films – microstructure, physical and sensor properties“ *17 ISCMP Journal of Physics: Conference Series* **398** (2012) 012019 doi:10.1088/1742-6596/398/1/012019
108. Gupta, D., Dutta, D., Kumar, M., Barman, P.B., Som, T., & Hazra, S.K., „Temperature dependent dual hydrogen sensor response of Pd nanoparticle decorated Al doped ZnO surfaces“ *Journal of Applied Physics*, **118** (16) (2015) 164501. ISSN:00218979; DOI:10.1063/1.4934521
- Biljana Pejova and Irina Bineva** “Sonochemically synthesized 3d assemblies of close-packed In₂S₃ quantum dots: structure, size dependent optical and electrical properties” *Journal of Physical Chemistry C* (2013), **117** (14), pp. 7303–7314 doi: 10.1021/jp310047t
109. Yang M-Q, Weng B, and Xu Y-J, „Improving the Visible Light Photoactivity of In₂S₃–Graphene Nanocomposite via a Simple Surface Charge Modification Approach“, *Langmuir*, **29** (33) (2013) 10549-10558. ISSN:15205827; DOI:10.1021/la4020493
110. Liang, Y., Yu, K., Wang, J., Chen, J., Sun, B., Shao, L., „Erythorbic acid promoted synthesis of CdS quantum dots in aqueous solution and study on optical properties“ *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **455** (1) (2014) 129-135. ISSN:09277757; DOI:10.1016/j.colsurfa.2014.04.049
111. Wei, C., Guo, W., Yang, J., Fan, H., Zhang, J., Zheng, W. „Facile solvothermal synthesis of 3D flowerlike β-In₂S₃ microspheres and their photocatalytic activity performance“, *RSC Advances*, **4** (92) (2014) 50456-50463. ISSN:20462069; DOI:10.1039/c4ra08545k
112. Li X., Weng B., Zhang N. and Xu Yi-J., “In Situ synthesis of hierarchical In₂S₃–graphene nanocomposite photocatalyst for selective oxidation”, *RSC Advances*, **4** (2014) 64484-64493. ISSN:20462069; DOI:10.1039/C4RA13764G
113. Sahraei, R., Noshadi, S., & Goudarzi, A., “Growth of nanocrystalline CuS thin films at room temperature by a facile chemical deposition method”, *RSC Advances*, **5** (94) (2015) 77354-77361. ISSN:20462069; DOI:10.1039/c5ra12400j
114. Wei, Y., Wang, Y., Wei, C., Zhao, Q., Yan, Y., Yang, J., & Huang, J., “Hydrogel formed by the co-assembly of sodium laurate and silica nanoparticles”, *RSC Advances*, **5** (128) (2015) 106005-106011. ISSN:20462069; DOI:10.1039/c5ra23636c
115. Srt, N., Makovec, D., Kristl, J., Kristl, M., “Sonochemically synthesized β-In₂S₃ nanoparticles using diverse indium salts, *Chalcogenide Letters*, **12** (9) (2015) 477-482. ISSN:15848663
116. Darafarin, S., Sahraei, R., & Daneshfar, A., “Effect of deposition temperature on structural and optical properties of chemically grown nanocrystalline Ni doped ZnS thin films”, *Journal of Alloys and Compounds*, **658** (2016) 780-787. ISSN:09258388; DOI:10.1016/j.jallcom.2015.10.272
117. Tien, L.-C., Shih, J.-L., “Type-II α-In₂S₃/In₂O₃ nanowire heterostructures: Evidence of enhanced photo-induced charge separation efficiency”, *RSC Advances*, **6** (15) (2016) 12561-12570. ISSN: 20462069; DOI: 10.1039/c5ra24370j
118. Batabyal, Sudip K., Lu, Shu En and Vittal, Jagadese J., “Synthesis, Characterization, and Photocatalytic Properties of In₂S₃, ZnIn₂S₄, and CdIn₂S₄ Nanocrystals”, *Crystal Growth & Design* **16** (4) (2016) 2231-2238. ISSN: 15287483; DOI: 10.1021/acs.cgd.6b00050
119. Malik, M.A., Ramasamy, K., Revaprasadu, N., “The recent developments in nanoparticle synthesis”, *SPR Nanoscience*, **3** (2016) 57-153. DOI: 10.1039/9781782623717-00057
120. Gorai, S., “Solvothermal synthesis and characterization of flower-like β-In₂S₃ microparticles” *Asian Journal of Chemistry*, **29** (12) (2017) 2671-2673. DOI: 10.14233/ajchem.2017.20783; ISSN: 09707077
121. Zhang, J., Wang, H., Yuan, X., Zeng, G., Tu, W., Wang, S., “Tailored indium sulfide-based materials for solar-energy conversion and utilization”, *Journal of Photochemistry and Photobiology C: Photochemistry Reviews*, **38** (2019) 1-26. DOI: 10.1016/j.jphotochemrev.2018.11.001; ISSN: 13895567
122. Li, R., Tang, L., Zhao, Q., Ly, T.H., Teng, K.S., Li, Y., Hu, Y., Shu, C., Lau, S.P., “In₂S₃ Quantum Dots: Preparation, Properties and Optoelectronic Application”, *Nanoscale Research Letters*, **14** (2019) art. no. 161. DOI: 10.1186/s11671-019-2992-0; ISSN: 19317573

123. Sun Y., Ye S., Zhang J., Song J., Zhou F., and Qu J., "Lithium nitrate-assisted hydrothermal synthesis of ultrathin Bi₂O₂Se nanosheets and their photoelectrochemical performance", *Journal of Materials Chemistry C*, **8** (2020) 14711-14717; ISSN: 20507534; <http://dx.doi.org/10.1039/D0TC04352D>

Nesheva, D.D., Bineva, I.E., Danila, M., Dinescu, A., Levi, Z.M., Aneva, Z.I., Muller, R., Effect of the sublayer thickness and furnace annealing on the crystallographic structure and grain size of nanocrystalline Zn_xCd_{1-x}Se thin films. Bulgarian Chemical Communications, 2013, ISSN: 0324-1130, 11-17. ISI IF:0.238

124. Rahman, T., Martin, N.P., Jenkins, J.K., Elzein, R., Fast, D.B., Addou, R., Herman, G.S., Nyman, M. "Nb₂O₅, LiNbO₃, and (Na, K)NbO₃ Thin Films from High-Concentration Aqueous Nb-Polyoxometalates", *Inorganic Chemistry*, **61** (8) (2022) 3586–3597; ISSN: 00201669; <https://doi.org/10.1021/acs.inorgchem.1c03638>

A. Amova, T. Hristova-Vasileva, L. Aljihmani, I. Bineva, V. Vassilev, Region of glass formation and main physicochemical properties of glasses from the "As₂Se₃-Ag₄SSe-PbTe system", J. All. Compd. 573 (2013) pp 32-36, IF 2.39.

125. Drebuschak, V.A., Pal'yanova, G.A., Seryotkin, Y.V., Drebuschak, T.N., "Probable metal-insulator transition in Ag₄Sse", *Journal of Alloys and Compounds*, **622** (2015) 236-242. ISSN: 09258388; DOI:10.1016/j.jallcom.2014.10.065

D. Nesheva, Z. Aneva, Z. Levi, I. Bineva, I. Miloushev, Effect of the composition and annealing on the electron transport in Zn_xCd_{1-x}Se nanocrystalline films, J. All. Compd. 586 (2014) 650–655.

126. Farag, A.A.M., Abdel Rafea, M., Roushdy, N., El-Shazly, O., El-Wahidy, E.F., "Influence of Cd-content on structural and optical dispersion characteristics of nanocrystalline Zn_{1-x}Cd_xS (0 ≤ x ≤ 0.9) films", *Journal of Alloys and Compounds*, **621** (2015) 434-440. ISSN:09258388, DOI:10.1016/j.jallcom.2014.09.091
127. R. Hernández Castillo, M. Acosta, I. Riech, G. Santana-Rodríguez, J. Mendez-Gamboa, C. Acosta, M. Zambrano, "Study of ZnS/CdS structures for solar cells applications", *Optik - International Journal for Light and Electron Optics*, **148** (2017) 95-100. ISSN: 00304026; <https://doi.org/10.1016/j.ijleo.2017.09.002>.
128. Kaur, J., Kaur, R., Tripathi, S.K., "Silver Dopant-Induced Effect on Structural and Optoelectronic Properties of CdSe Thin Films", *Acta Metallurgica Sinica (English Letters)*, **32** (5) (2019) 541-549. DOI: 10.1007/s40195-018-0824-3; ISSN: 10067191

Arias, A., Nedev, N., Nesheva, D., Curiel, M., Manolov, E., Mateos, D., Dzhurkov, V., Valdez, B., Contreras, O., Herrera, R., Bineva, I., Siqueiros, J. M.. MOS Structures Containing Si Nanocrystals for Applications in UV Dosimeters. Key Engineering Materials, 605, Trans Tech Publications, Switzerland, 2014, ISSN:1013-9826, DOI:10.4028/www.scientific.net/KEM.605.380, 380-383. SJR:0.173

129. Jong, F.-C., Hsieh, W.-C., Lee, H.-T.D., Wu, S.-C., "UV total dose nonvolatile sensor using silicon-oxide-nitride-oxide-silicon capacitor with oxy-nitride as charge-trapping layer", *Sensors and Materials*, **30** (8) (2018) 1831-1839. DOI: 10.18494/SAM.2018.1904, ISSN: 09144935
130. Hsieh, W.-C., Jong, F.-C., "Performance improvement of SONOS Device as UV total dose nonvolatile sensor with bottom-silicon-rich and top-nitrogen-rich nitride structure", *Sensors and Materials*, **31** (5) (2019) 1727-1737. DOI: 10.18494/SAM.2019.2332, ISSN: 09144935
131. Hsieh, W.-C., Jong, F.-C., Tseng, W.-T., "Performance improvement of SAONOS device as UV-total-dose nonvolatile sensor with Al₂O₃/SiO₂ bilayer blocking oxide", *Sensors and Materials*, **32** (7) (2020) 2303-2310. ISSN: 09144935; DOI: 10.18494/SAM.2020.2880

Nesheva, D., Nedev, N., Curiel, M., Dzhurkov, V., Arias, A., Manolov, E., Mateos, D., Valdez, B., Bineva, I., Herrera, R.. Application of Metal-Oxide-Semiconductor structures containing silicon nanocrystals in radiation dosimetry. Open Physics, 13, 2015, ISSN:2391-5471, DOI:10.1515/phys-2015-0006, 63-71. ISI IF:1.085

132. Gan, Z. K., Zhou, P. Q., Dong, A. H., Zheng, D. Y., Wang, H., "A Laser and Electric Pulse Modulated Nonvolatile Photoelectric Response in Nanoscale Copper Dusted Metal-Oxide-

- Semiconductor Structures", *Advanced Electronic Materials*, **4** (11) (2018) 1800234. DOI: 10.1002/aelm.201800234; <https://doi.org/10.1002/aelm.201800234>
133. Palade, C., Slav, A., Lepadatu, A.M., Stavarache, I., Dascalescu, I., Cojocaru, O., Stoica, T., Ciurea, M.L., Lazanu, S., "MOS Dosimeter Based on Ge Nanocrystals in HfO₂", International Semiconductor Conference (CAS) 2018, Sinaia, Romania. DOI: 10.1109/SMICND.2018.8539769
134. Palade, C., Slav, A., Lepadatu, A.M., Stavarache, I., Dascalescu, I., Maraloiu, A.V., Negrila, C., Logofatu, C., Stoica, T., Teodorescu, V.S., Ciurea, M.L., Lazanu, S., "Orthorhombic HfO₂ with embedded Ge nanoparticles in nonvolatile memories used for the detection of ionizing radiation", *Nanotechnology*, **30** (44) (2019) 445501. DOI: 10.1088/1361-6528/ab352b, ISSN: 09574484
- Herrera, R., Curiel, M., Arias, A., Nesheva, D., Nedev, N., Manolov, E., ... & Bineva, I. (2015). Structural, compositional and electrical characterization of Si-rich SiO_x layers suitable for application in light sensors. *Materials Science in Semiconductor Processing*, **37**, 229-234.**
135. Kim, S.Y., & Kim, B.H., "Silica decorated on porous activated carbon nanofiber composites for high-performance supercapacitors", *Journal of Power Sources*, **328** (2016) 219-227, ISSN:03787753, DOI:10.1016/j.jpowsour.2016.08.011.
136. Kim, S. Y., Wee, J.-H., Yang, Ch.-M., Kim, B.-H., "Electrochemical capacitor performance of 2-(trimethylsilyloxy) ethyl methacrylate-derived highly mesoporous carbon nanofiber composite containing MnO₂", *Journal of Electroanalytical Chemistry*, **801** (2017) 403-409. <https://doi.org/10.1016/j.jelechem.2017.07.028>.
137. Zamchiy, A.O., Baranov, E.A., Merkulova, I.E., Volodin, V.A., Sharafutdinov, M.R., Khmel, S.Y., "Effect of annealing in oxidizing atmosphere on optical and structural properties of silicon suboxide thin films obtained by gas-jet electron beam plasma chemical vapor deposition method", *Vacuum*, **152** (2018) 319-326. DOI: 10.1016/j.vacuum.2018.03.055, ISSN: 0042207X
138. Lee, Y.H., Kim, B.-H., "Optimization of cyclodextrin content for highly porous carbon nanofibers with enhanced electrocapacitive performance", *Journal of Power Sources*, **479** (2020) art. no. 228809. DOI: 10.1016/j.jpowsour.2020.228809
139. Kim, B.-H., Park, K., Beom Kang, S., Lee, S., Lee, K., "Effect of different phenylsilane contents on the electrochemical behavior of cyclodextrin/phenylsilane-W. dela Cruz-derived carbon nanofiber composites", *Materials Letters*, **279** (2020) art. no. 128428. DOI: 10.1016/j.matlet.2020.128428
140. Yun, S.I., Lee, H.-J., Kim, B.-H., "Structure and electrochemical properties of highly conductive and porous carbon nanofiber derived from inclusion complex of cyclodextrin - phenylsilane, *Journal of Electroanalytical Chemistry*", **858** (2020) art. no. 113815. DOI:10.1016/j.jelechem.2019.113815

Biljana Pejova and Irina Bineva „Charge carrier transport through 3D assemblies of zincblende CdSe and ZnSe quantum dots in weak size-quantization regime“ *Journal of Materials Science: Materials in Electronics: Volume 26, Issue 7 (2015), Page 4944-4955.*

141. Darafarin, S., Sahraei, R., & Daneshfar, A., "Effect of deposition temperature on structural and optical properties of chemically grown nanocrystalline Ni doped ZnS thin films", *Journal of Alloys and Compounds*, **658** (2016) 780-787. ISSN: 09258388; DOI: 10.1016/j.jallcom.2015.10.272
142. Babu, N.S., Khadar, M.A., "Electrical properties of grain size tuned CdSe nanocrystal films for practical applications", *Solar Energy Materials and Solar Cells*, **178** (2018) 106-114. DOI: 10.1016/j.solmat.2018.01.003, ISSN: 09270248
143. Hassanien, A.S., Neffati, R., Aly, K.A., "Impact of Cd-addition upon optical properties and dispersion parameters of thermally evaporated Cd_xZn_{1-x}Se films: Discussions on bandgap engineering, conduction and valence band positions", *Optik*, **212** (2020) art. no. 164681. ISSN: 00304026 DOI: 10.1016/j.ijleo.2020.164681
144. Akl, A.A., Hassanien, A.S., "Comparative microstructural studies using different methods: Effect of Cd-addition on crystallography, microstructural properties, and crystal imperfections of annealed nano-structural thin Cd_xZn_{1-x}Se films", *Physica B: Condensed Matter*, **620** (2021) 413267. ISSN: 09214526; DOI: 10.1016/j.physb.2021.413267
145. Li, L., Cheng, J., Cheng, Y., Han, T., Liu, Y., Zhou, Y., Han, Z., Zhao, G., Zhao, Y., Xiong, C., Dong, L., Wang, Q., "Significantly enhancing the dielectric constant and breakdown strength of

Pejova, B., & Bineva, I. (2016). Sonochemically assisted colloidal route to CdSe quantum dot assemblies: an alternative way to further fine-tune the size-dependent properties. *Journal of Materials Science: Materials in Electronics*, **27** (10), 10600-10615.

146. Iqbal, S., Khan, R. A., Iqbal, M. J., Waqas, M., Nisar, J., Shah, F., & Khan, A. R., "Influence of Fe²⁺ and Ni²⁺ contents on the optical and electrical properties of ZnS quantum dots", *Journal of Materials Science: Materials in Electronics*, **28** (5) (2017) 4449-4457. ISSN:09574522; <https://doi.org/10.1007/s10854-016-6074-0>.

Nesheva D, Dzhurkov V, Šćepanović M, Bineva I, Manolov E, Kaschieva S, Nedev N, Dmitriev SN, Popović ZV, (2016). High energy electron-beam irradiation effects in Si-SiO_x structures *Journal of Physics: Conference Series*, **682** (1) 012012.

147. Apurav Guleria, Suman Neogy, Dharmendra K. Maurya, and Soumyakanti Adhikari "Blue Light-Emitting Si Quantum Dots with Mesoporous and Amorphous Features: Origin of Photoluminescence and Potential Applications", *Journal of Physical Chemistry C*, **121** (43) (2017) 24302-24316. DOI: 10.1021/acs.jpcc.7b07283.

148. Ning, J., Wang, D., Zhang, J., Feng, X., Zhong, R., Chen, J., Dong, J., Guo, L., Hao, Y., "One-step synthesis of novel snowflake-like Si-O/Si-C nanostructures on 3D graphene/Cu foam by chemical vapor deposition", *Nano Res.*, **11** (4) (2018) 1861-1872. <https://doi.org/10.1007/s12274-017-1804-z> ISSN: 19980124

149. Aydemir, U., "High-energy e-Beam-induced effects in Au/n-Si diodes with pre-irradiated PTCDA interfacial layer", *Journal of Materials Science: Materials in Electronics*, **31** (7) (2020). 5779-5788. DOI: 10.1007/s10854-020-03148-6.

150. Yoon, H., Choi, D., Kim, T., Yoon, Y. J., "Densification of SiO₂ films via low-energy electron-beam irradiation", *Materials Letters*, **320** (2022) 132319. ISSN:0167577X, DOI:10.1016/j.matlet.2022.132319.

Nesheva D., Scepovic M., Grujic-Brojcic M., Dzhurkov V., Kaschieva S., Bineva I., Dmitriev S.N., Popovic Z.V. (2016) Photoluminescence from 20 MeV electron beam irradiated homogeneous SiO_x and composite Si-SiO_x films, *Journal of Physics: Conference Series*, Vol **764** (1) 012018. (<http://iopscience.iop.org/1742-6596/764/1/012018>)

151. Ponkumar, S., Janaki, K., Prakash Babu, D., Munirathnam, K., Kumar, M.M., "ZrO₂-Al₂O₃ nanocomposite: Synthesis, characterization and influence of electron beam irradiation on the structural and PL properties", *AIP Conference Proceedings*, **1966** (2018) art. no. 020009. DOI: 10.1063/1.5038688, ISSN: 0094243X, ISBN: 9780735416710.

Hristova-Vasileva T., Bineva I., Dinescu A., Arsova D., Nesheva D., "Cymatics" of selenium and tellurium films deposited in vacuum on vibrating substrates. *Surface and Coatings Technology*, **307**, Elsevier, 2016, ISSN:0257-8972, DOI:<http://dx.doi.org/10.1016/j.surfcoat.2016.09.042>, 542-546. ISI IF:2.139

152. Tanaka, Keiji, "Amorphous Selenium and Nanostructures", "Springer Handbook of Glass", Eds. J. David Musgraves, Juejun Hu, Laurent Calvez. Springer International Publishing, 2019. ISSN: 25228692; DOI: 10.1007/978-3-319-93728-1_19

153. Buehler, M.J., "Liquified protein vibrations, classification and cross-paradigm de novo image generation using deep neural networks", *Nano Futures*, **4** (3) (2020) art. no. 035004, pp. 1-12. ISSN: 23991984; DOI: 10.1088/2399-1984/ab9a27

154. Lukin, A., Gülseren, O., "Tailoring Vibrational Signature and Functionality of 2D-Ordered Linear-Chain Carbon-Based Nanocarriers for Predictive Performance Enhancement of High-End Energetic Materials", *Nanomaterials*, **12** (7) (2022) 1041. ISSN: 20794991; <https://doi.org/10.3390/nano12071041>

155. Lukin, A., Gülseren, O., "Tuning the Spatially Controlled Growth, Structural Self-Organizing and Cluster-Assembling of the Carbyne-Enriched Nano-Matrix during Ion-Assisted Pulse-Plasma

Hristova-Vasileva T., Bineva I., Dinescu A., Danila M., Arsova D.. As₂Se₃ thin films deposited by frequency assisted thermal evaporation – morphology and structure. *Journal of Physics: Conference Series*, **794, 1, IOP Science, 2017, ISSN:1742-6596, DOI:10.1088/1742-6596/794/1/012015, 012015. SJR:0.24**

156. Azhniuk, Y., Dzhagan, V., Solonenko, D., Loya, V., Grytsyshche, I., Lopushansky, V., Gomonnai, A., Zahn, D.R.T. In-doped As₂Se₃ thin films studied by Raman and X-ray photoelectron spectroscopies *Applied Surface Science*, **471** (2019) 943-949. DOI: 10.1016/j.apsusc.2018.12.097, ISSN: 01694332
157. G.M.Whyte, Chawki Awada, P.O.Offor, F.U.Otung, Adil Alshoabi, Abdullah Aljaafari, A.B.C.Ekwealor, M.Maaza, Fabian I.Ezema, "Optical and photoluminescence performance of electrodeposited arsenic selenide thin film doped with erbium ion", *Optical Materials*, **99** (2020) 109556. ISSN: 09253467; <https://doi.org/10.1016/j.optmat.2019.109556>
158. Awada Ch., Whyte G. M., Offor P. O., Whyte F. G., Kanoun M. B., Goumri-Said S., Alshoabi A., Ekwealor A.B.C., Maaza M., Ezema F.I., "Synthesis and studies of electro-deposited Yttrium Arsenic Selenide nanofilms for opto-electronic applications", *Nanomaterials*, **10** (8) (2020) 1557, pp.1-15. ISSN: 20794991; DOI: 10.3390/nano10081557
159. Whyte, G.M., Awada, C., Offor, P.O., Whyte, F.U., Kanoun, M.B., Goumri-Said, S., Alshoabi, A., Ekwealor, A.B.C., Maaza, M., Ezema, F.I., "Experimental and theoretical studies of the solid-state performance of electrodeposited Yb₂O₃/As₂Se₃ nanocomposite films", *Journal of Alloys and Compounds*, **855** (2021) art. no. 157324. ISSN: 09258388; DOI: 10.1016/j.jallcom.2020.157324

Nesheva D., Dzhurkov V., Stambolova I., Blaskov V., Bineva I., Calderon Moreno J.M., Preda S., Gartner M., Hristova-Vasileva T., Shipochka M., "Surface modification and chemical sensitivity of sol gel deposited nanocrystalline ZnO films", *Materials Chemistry and Physics*, (2018) 165-171.

160. Zhang, Y., Wang, X., Wang, C., Liu, J., Zhai, H., Liu, B., Zhao, X., Fang, D., "Facile fabrication of zinc oxide coated superhydrophobic and superoleophilic meshes for efficient oil/water separation", *RSC Advances*, **8** (61) (2018) 35150-35156. DOI: 10.1039/c8ra06059b, ISSN: 20462069.
161. Zhang, Y., Wang, X., Wang, C., Zhai, H., Liu, B., Zhao, X., Fang, D., Wei, Y., Facile preparation of flexible and stable superhydrophobic non-woven fabric for efficient oily wastewater treatment *Surface and Coatings Technology*, **357** (2019) 526-534. DOI: 10.1016/j.surfcoat.2018.10.037 ISSN: 02578972
162. Zaidi, Z., Siddiqui, S.I., Fatima, B., Chaudhry, S.A., "Synthesis of ZnO nanospheres for water treatment through adsorption and photocatalytic degradation: Modelling and process optimization", *Materials Research Bulletin*, **120** (2019) Article Number: 110584. DOI: 10.1016/j.materresbull.2019.110584, ISSN: 00255408.
163. Bazta, O., Urbieta, A., Piqueras, J., Fernandez, P., Addou, M., Calvino, J. J., Hungria, A.B., "Enhanced UV emission of Li-Y co-doped ZnO thin films via spray pyrolysis", *Journal of Alloys and Compounds*, **808** (2019) 151710. DOI:10.1016/j.jallcom.2019.151710, ISSN: 09258388
164. Derbali, S., Nouneh, K., Galca, A.C., Ebn Touhami, M., Secu, M., Matei, E., Leonat, L.N., Pintilie, L., El Harfaoui, N., Fahoume, M., "Structural and optical properties of ZnO thin films grown by rapid atmospheric mist chemical vapor technique", *Optical and Quantum Electronics* **51** (7) (2019) Article Number: 210. DOI: 10.1007/s11082-019-1937-2, ISSN: 03068919.
165. Li, Yanli, Han, Li, Kong, Xiangdong, "Effect of Electron Beam Annealing Duration on the Properties of ZnO Thin Films", *IOP Conf. Ser.: Mater. Sci. Eng.*, **677** (2019) 022066. DOI: 10.1088/1757-899X/677/2/022066.
166. Amakali, T., Daniel, L.S., Uahengo, V., Dzade, N.Y., de Leeuw, N.H., "Structural and optical properties of ZnO thin films prepared by molecular precursor and sol-gel methods *Crystals*", **10** (2) (2020) art. no. 132. DOI: 10.3390/cryst10020132
167. Perniu D., Bogatu C., Gheorghita S., Covei M., Duta A., "Thin Films Based on ZnO-Graphene Oxide Heterostructures for Self-Cleaning Applications", In: Visa I., Duta A., (eds) *Solar Energy*

- Conversion in Communities. Springer Proceedings in Energy, Springer Cham., 2020. https://doi.org/10.1007/978-3-030-55757-7_30
168. Al-Zahrani, A.A., Zainal, Z., Talib, Z.A., Lim, H.N., Holi, A.M., Bahrudin, N.N., "Enhanced photoelectrochemical performance of Bi₂S₃/Ag₂S/ZnO novel ternary heterostructure nanorods". *Arabian Journal of Chemistry*, **13** (12) 9166-9178. <https://doi.org/10.1016/j.arabjc.2020.10.040>
169. Ates, A., Hatipoglu, H., "Evaluation of Stability and Catalytic Activity in Supercritical Water of Zinc Oxide Samples Prepared by the Sol–Gel Method", *Journal of Inorganic and Organometallic Polymers and Materials*, **31** (2021) 4581-4593. <https://doi.org/10.1007/s10904-021-02066-2>
170. Martínez, L., García-Salgado, G., Morales-Morales, F., Campillo, B., Hernández, A. G., Karthik, T.V.K, Jimenez-Vivanco, M.R., Campos-Álvarez, J., "ZnO Films Incorporation Study on Macroporous Silicon Structure", *Materials*, **14** (13) (2021) 3697. <https://doi.org/10.3390/ma14133697>,
- Nesheva, D, Fogarassy, Z, Fabian, F, Hristova-Vasileva, T, Sulyok, A, Bineva, I, Evgenia Valcheva, Antonova, K, Petrik, P. Influence of fast neutron irradiation on the phase composition and optical properties of homogeneous SiO_x and composite Si–SiO_x thin films. *Journal of Materials Science*, **56**, Springer Nature, 2021, ISSN:1573-4803, DOI:<https://doi.org/10.1007/s10853-020-05338-3>, 3197-3209. SJR (Scopus):0.8, JCR-IF (Web of Science):4.22**
171. Lushchik, A., Kuzovkov, V.N., Kotomin, E.A., Prieditis, G., Seeman, V., Shablonin, E., Vasil'chenko, E., Popov, A. I., "Evidence for the formation of two types of oxygen interstitials in neutron-irradiated α -Al₂O₃ single crystals", *Sci. Rep.* **11** (2021) 20909. <https://doi.org/10.1038/s41598-021-00336-0>